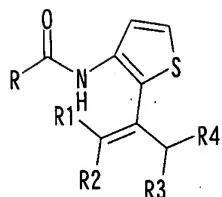


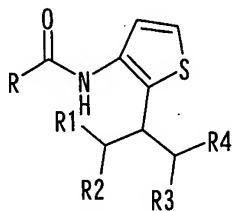
CLAIMS

1. A method for reducing a sulfur-containing compound by hydrogenation, the method comprising the steps of:
 - hydrogenating the sulfur-containing compound using a noble metal catalyst at a reaction temperature of 150°C to 300°C;
 - recovering the used noble metal catalyst; and
 - reusing the noble metal catalyst.
2. The method according to claim 1, wherein the noble metal catalyst comprises palladium.
3. The method according to claim 1, wherein an alcohol of 1 to 8 carbon atoms is used as a reaction solvent in the step of hydrogenating the sulfur-containing compound.
4. The method according to any one of claims 1 to 3, wherein the sulfur-containing compound is a thiophene compound.
5. The method according to claim 4, wherein the thiophene compound is a thiophene amide.
6. The method according to claim 5, wherein the thiophene amide is represented by general formula (1):



(1)

(wherein R represents a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aromatic hydrocarbon ring, a substituted or unsubstituted nonaromatic hydrocarbon ring, a substituted or unsubstituted aromatic heterocycle, or a substituted or unsubstituted nonaromatic heterocycle; R1, R2, R3, and R4 independently represent a hydrogen atom, or a linear or branched alkyl group of 1 to 12 carbon atoms; and R1 and R2, R3 and R4, R1 and R3, R1 and R4, R2 and R3, or R2 and R4 may be bonded together to form a cycloalkyl group), and an alkenyl group of the compound represented by general formula (1) is reduced by hydrogenation to produce a 2-alkyl-3-aminothiophene derivative represented by general formula (2):

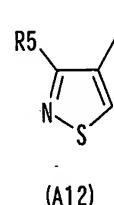
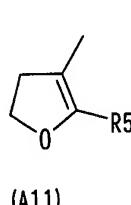
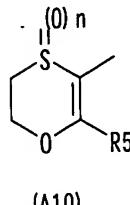
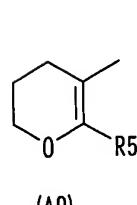
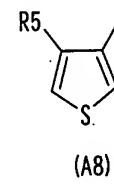
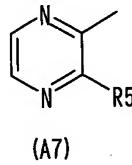
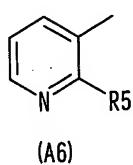
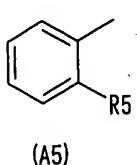
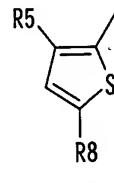
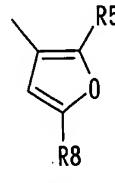
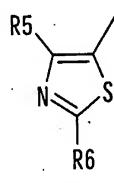
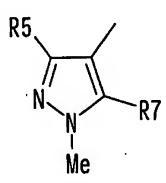


(2)

(wherein R, R1, R2, R3, and R4 are as defined above).

7. The method according to claim 6, wherein R in the compounds represented by general formula (1) and general formula (2) is a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, or a substituted or unsubstituted phenyl group.

8. The method according to claim 6, wherein R in the compounds represented by general formula (1) and general formula (2) is a group represented by general formulae (A1) to (A12):



(wherein R5 represents a trifluoromethyl group, a

difluoromethyl group, a methyl group, an ethyl group, a hydrogen atom, or a halogen atom; R6 represents a hydrogen atom, a methyl group, a trifluoromethyl group, a halogen atom, a methoxy group, or an amino group; R7 represents a hydrogen atom, a halogen atom, a methyl group, or a methoxy group; R8 represents a hydrogen atom, a methyl group, an ethyl group, or a halogen atom; and n represents an integer of 0 to 2; however, in general formulae (A9), (A10), and (A11), R5 does not represent a halogen atom).

9. The method according to claim 8, wherein R in the compounds represented by general formula (1) and general formula (2) is represented by general formula (A1) in which R5 is a trifluoromethyl group and R7 is a hydrogen atom.

10. The method according to claim 6, wherein each of R1, R2, and R3 in the compound represented by general formula (2) is a hydrogen atom and R4 in the compound represented by general formula (2) is an isopropyl group.